

CLAIMS

1. A lightning protection apparatus for a radome attached to an airframe comprising;

a source of electrically conducting fluid;

a delivery means for delivering the conducting fluid to the surface of the radome when installed prior to a lightning strike;

a control means for controlling the delivery means having

one or more electrostatic field sensors for detecting a change in surrounding atmospheric conditions indicative of a high probability lightning strike and

means for initiating delivery of the conducting fluid on detection of such a change in atmospheric conditions comprising a threshold detector for detecting when an electrostatic field amplitude detected by the one or more electrostatic field sensors exceeds a predetermined threshold level, and a switch for activating the delivery means when the predetermined threshold level is exceeded; and

means for directing the conducting fluid across the radome surface when installed towards the airframe thereby providing a channel for conducting any current induced by a lightning strike to the airframe for dissipation without damage to the radome.

2. A lightning protection apparatus for a radome as claimed in claim 1 wherein a plurality of electrostatic field sensors are provided in a circumferential spatial arrangement about the longitudinal axis of the radome and are polarity sensitive; the means for initiating the delivery system comprises a logic circuit configured to recognise a condition where at least one electrostatic sensor detects a field amplitude which exceeds the predetermined threshold level and the polarity of the

3. A lightning protection apparatus for a radome as claimed in claim 1 or claim 2 wherein the predetermined threshold level is about 1000 volts per metre.

5. A lightning protection apparatus for a radome as claimed in any preceding claim further comprising means for deactivating the conductive channel when the surrounding atmospheric conditions are no longer indicative of a high probability lightning strike.

7. A lightning protection apparatus for a radome as claimed in any preceding claim wherein the delivery system comprises two or more dielectric capillary tubes which vent close to the tip of the radome and a pump associated with a reservoir of the conducting fluid.

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13. A method for conducting lightning across the surface of a non-conducting article substantially as described herein and with reference to the Figures.

14. A method for conducting lightning across the surface of a non-conducting article comprising;

providing a source of electrically conducting fluid;

delivering the conducting fluid to the surface of the article prior to a lightning strike;
and

directing the conducting fluid across the outer surface of the article thereby providing a conductive channel for the passage of electrical current resulting from a lightning strike and dissipating said current through a conductive medium.

15. A lightning protection apparatus substantially as described herein and with reference to the Figures.

16. A method for conducting lightning across the surface of a non-conducting article substantially as described herein and with reference to the Figures.